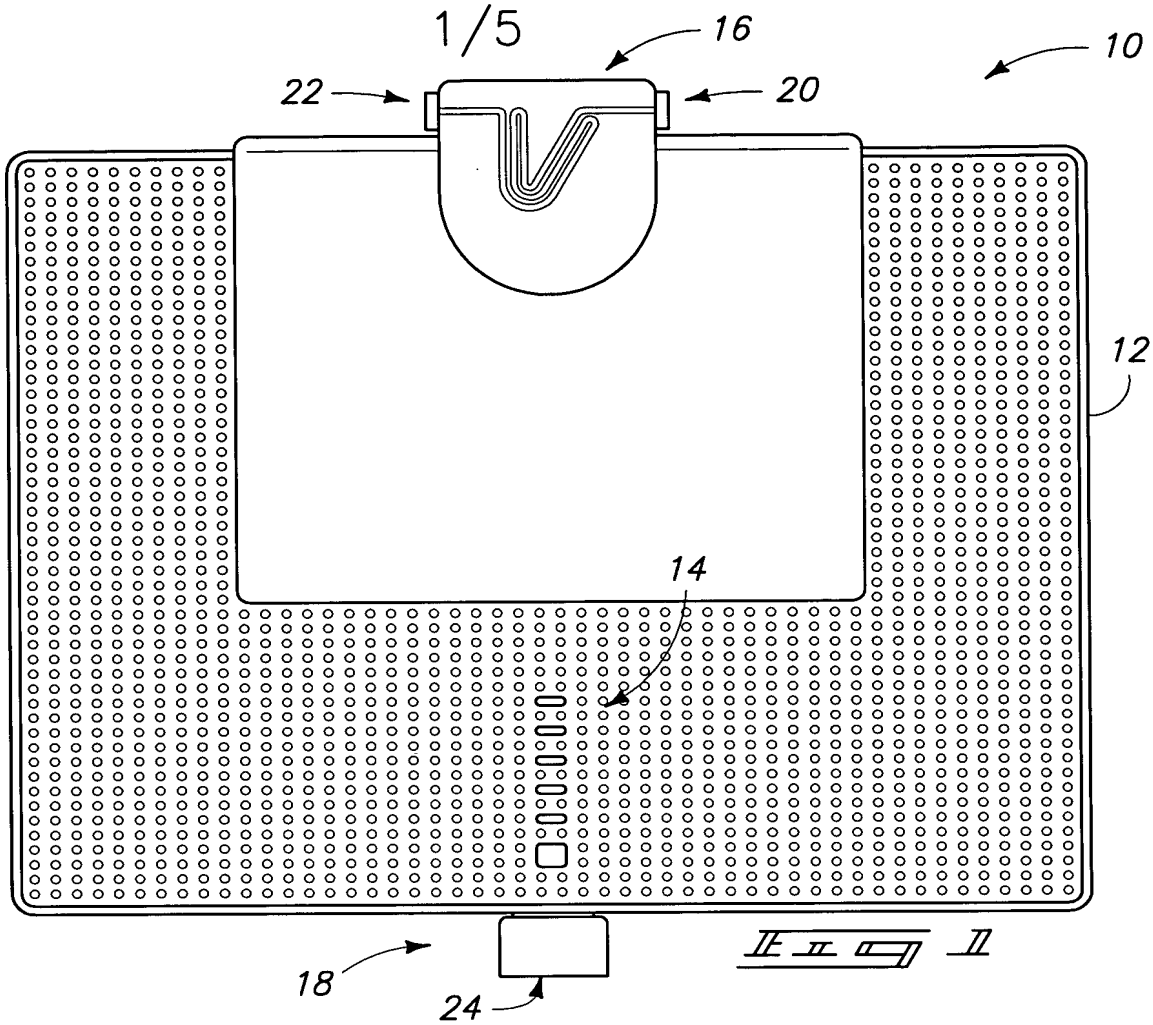

Fig. 1

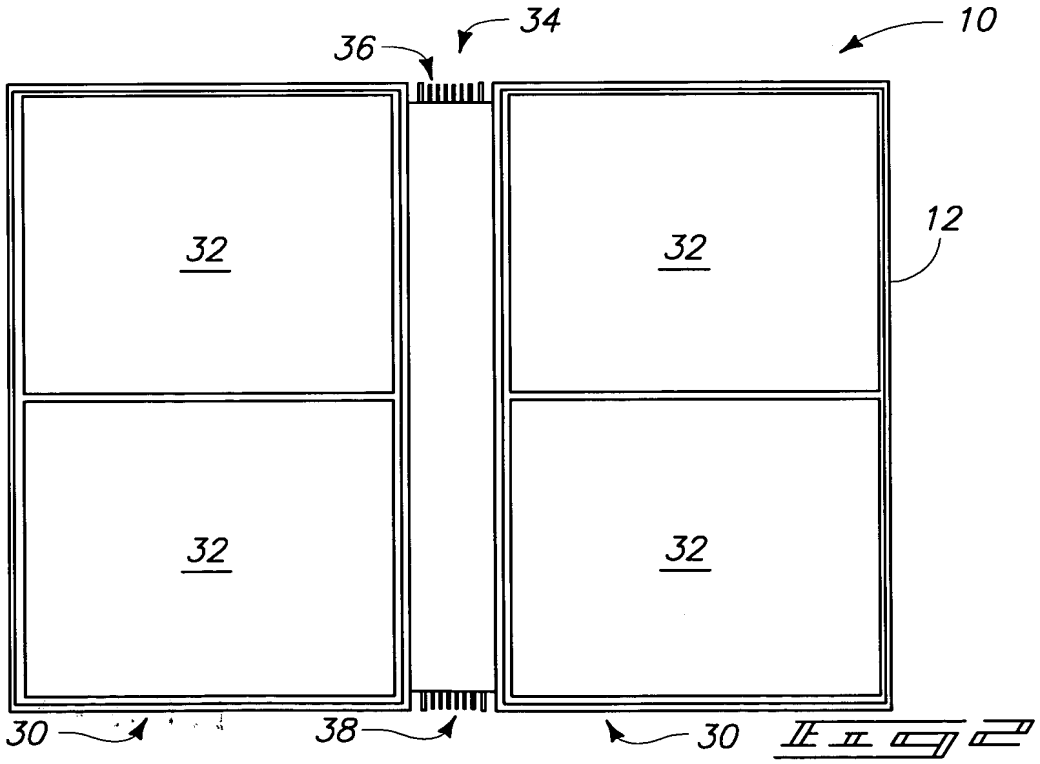

Fig. 2

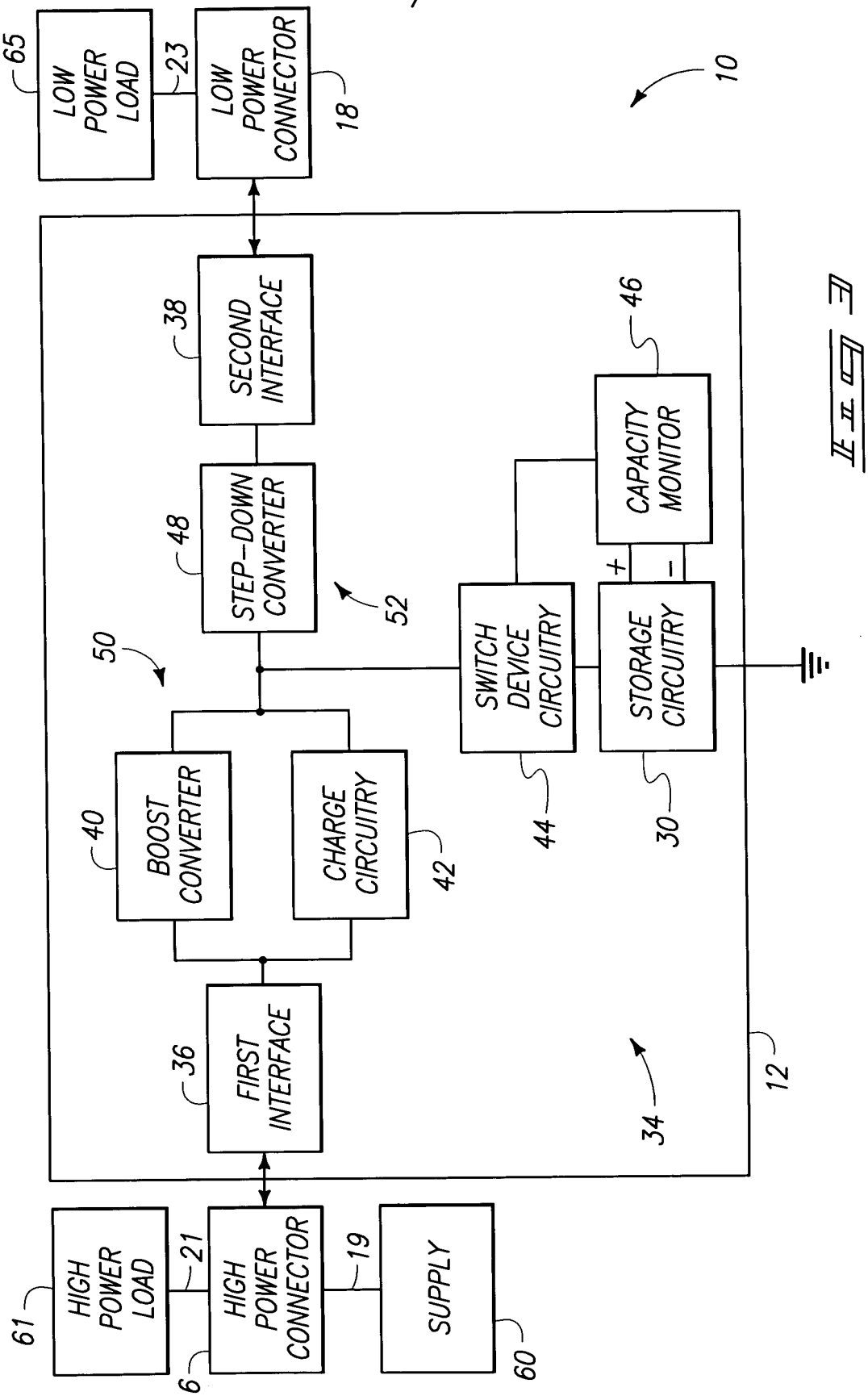
10
12
34
50
52
LOW POWER LOAD
65
23
LOW POWER CONNECTOR
18
SECOND INTERFACE
38
STEP-DOWN CONVERTER
48
BOOST CONVERTER
40
CHARGE CIRCUITRY
42
FIRST INTERFACE
36
SWITCH DEVICE CIRCUITRY
44
STORAGE CIRCUITRY
30
CAPACITY MONITOR
46
+
-
HIGH POWER LOAD
61
21
HIGH POWER CONNECTOR
16
19
SUPPLY
60

FIG 3

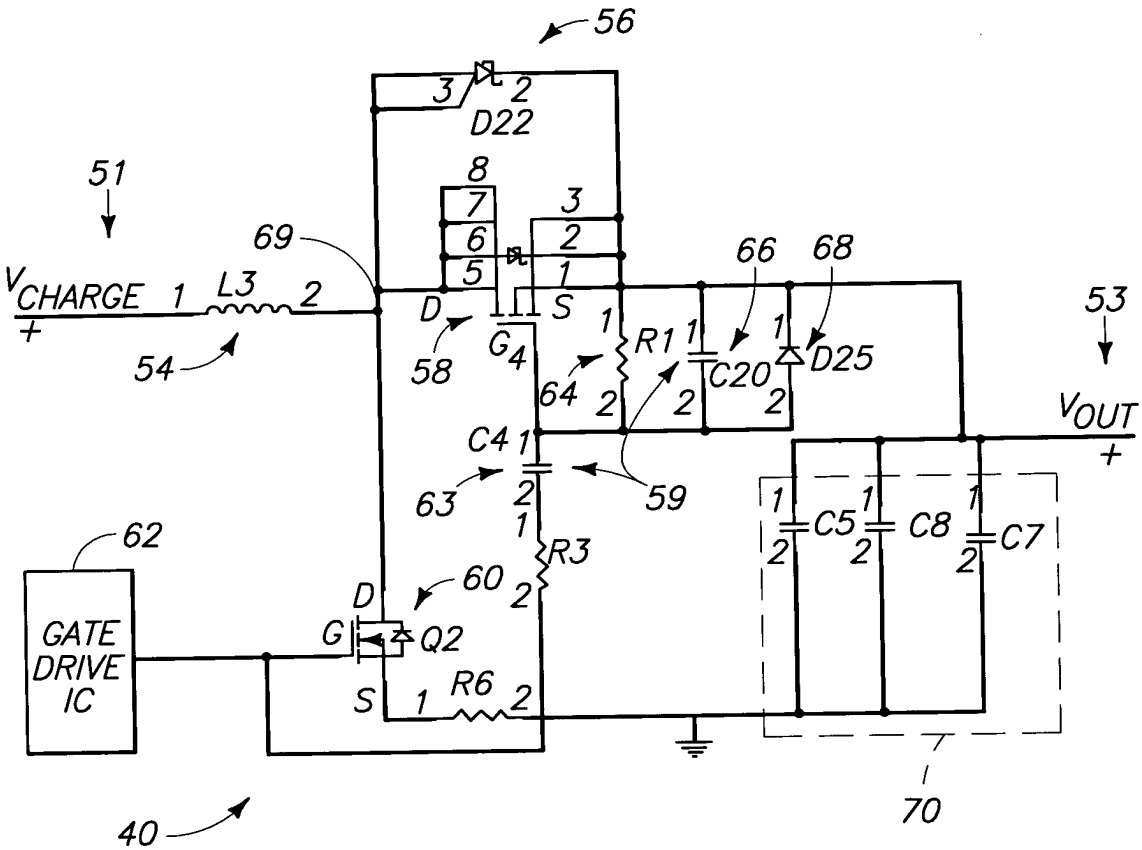
56
3
2
D22
51
8
7
6
5
3
2
1
69
66
68
V_{CHARGE}
+
1
L3
2
D
S
53
54
58
G_4
64
R1
C20
D25
V_{OUT}
+
C4
63
59
62
R3
60
GATE
DRIVE
IC
G
Q2
S
R6
C5
C8
C7
70
40

Fig. 4

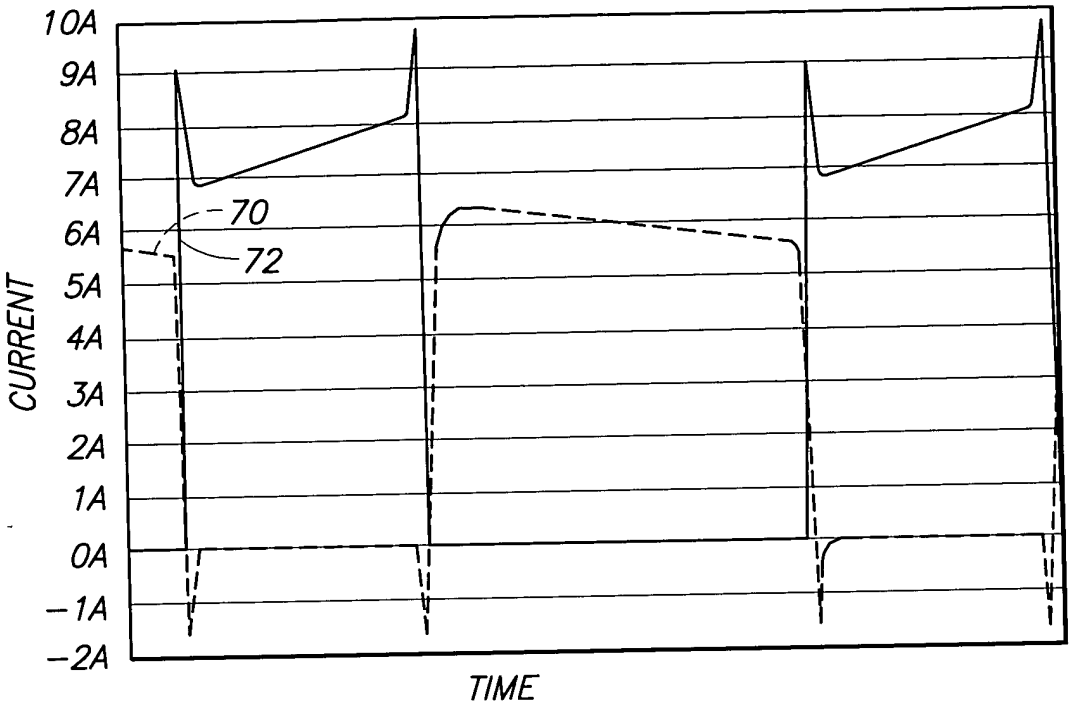
10A
9A
8A
7A
6A
5A
4A
3A
2A
1A
0A
−1A
−2A
CURRENT
70
72
TIME

Fig 5

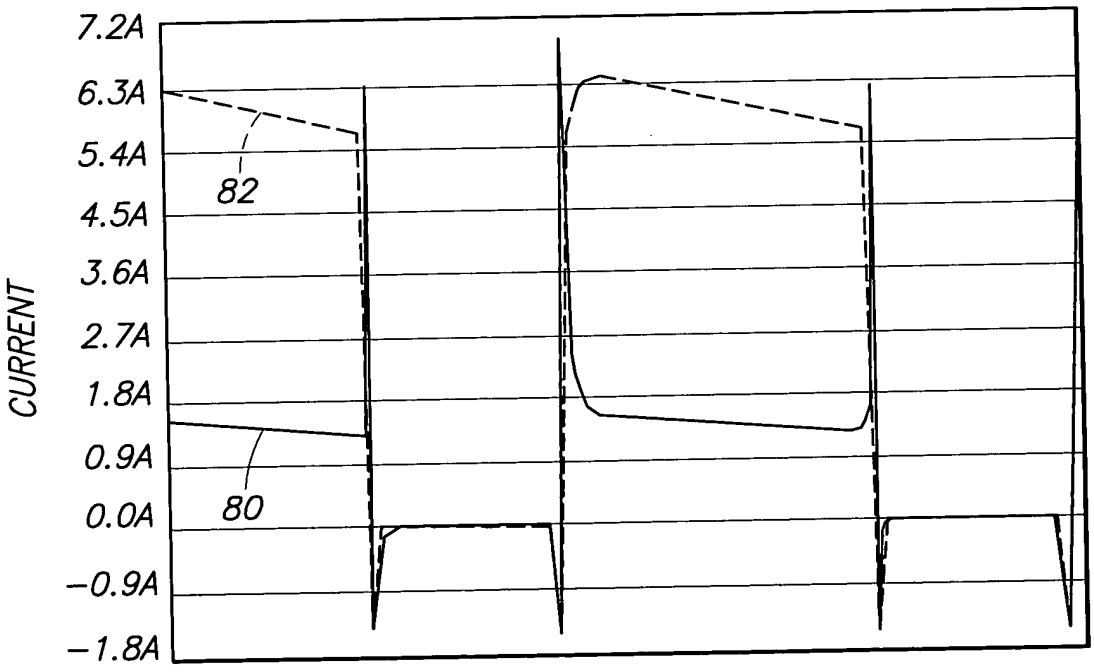
7.2A
6.3A
5.4A
4.5A
3.6A
2.7A
1.8A
0.9A
0.0A
−0.9A
−1.8A
CURRENT
82
80
TIME

Fig 6

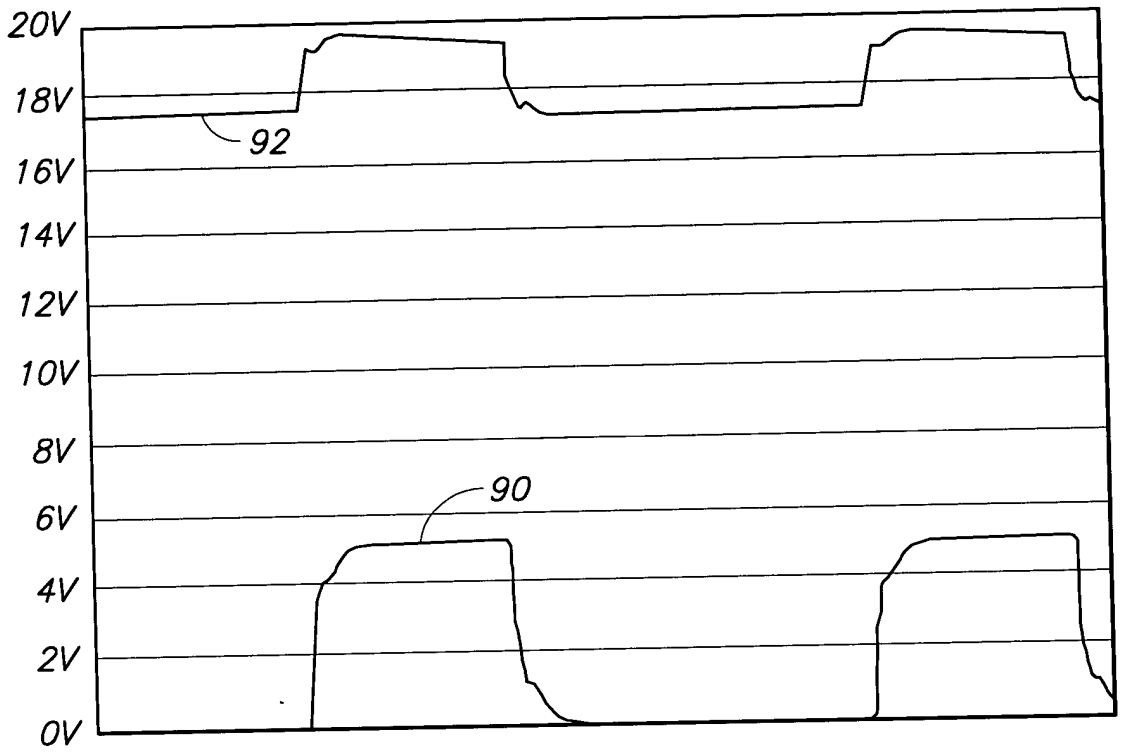

Fig 1